

FIXED INCOME - II
FINA - 7A97
COURSE OUTLINE - FALL 2018

INSTRUCTOR

CLASS SCHEDULE

HITESH DOSHI

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DAY: THURSDAY - 6 PM - 9 PM

OFFICE HOURS: MW - 1 PM - 2 PM

COURSE DESCRIPTION

This course covers models and techniques to price interest derivatives and securitized products. By the end of this course, students will learn (i) basics of interest rate futures and options; (ii) the classical/recent modeling techniques for interest derivative products such as the models of Vasicek; and Black, Derman, Toy; (ii) the basics of securitization with a focus on Mortgage Backed Security (MBS).

TEXTBOOK

Veronesi, P. (2010): Fixed Income Securities: Valuation, Risk, and Risk Management, Wiley.

Other Useful Books

Sundaresan, S. (2009) Fixed Income Markets and their Derivatives, Academic Press.

Martellini, L., P. Priaulet and S. Priaulet (MPP): Fixed Income Securities: Valuation, Risk Management, and Portfolio Strategies, John Wiley:

Duffie, D., K. Singleton: Credit Risk: Pricing, Measurement, and Management: Excellent integrated treatment of the conceptual, practical, and empirical foundations for credit risk pricing and risk measurement.

John C. Hull, Options, Futures and Other Derivatives, Prentice Hall, 2008, ISBN 0136015867: Classic book on equity and fixed income derivatives. Lots of models, and pricing methodologies.

COURSE EVALUATION

- Excel Exercises (3): 45%
 - These exercises will include implementing interest rate models and an implementation exercise on mortgage backed securities.
- Short Quizzes (2): 20%
 - The two quizzes will be tentatively held in weeks 4 and 6 respectively.
- Final Exam: 30%
- Participation: 5%

UNIVERSITY POLICIES

University of Houston values academic honesty. Therefore, all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the code of student conduct and disciplinary procedures (see <http://www.uh.edu/academics/catalog/policies>). If a student is found to commit any act of academic dishonesty during exams, he/she will automatically receive an F for the class and he/she will be reported to the Chair of the Department of Finance.

As students enrolled in courses offered by the Bauer College, you are expected to adhere to the ethical principles described in the Bauer Code of Ethics and Professional Conduct (Bauer Code), in addition to those required by the UH Student Handbook. You may review the Bauer Code by clicking on the following link - <http://www.bauer.uh.edu/centers/bcbe/bauer-code-of-ethics.php>. You may obtain a copy of the UH Student Handbook from the Dean of Students Office located in room 252 of the University Center, or by visiting the publications webpage on the Dean of Student's website at <http://publications.uh.edu/>.

If you have a disability please contact the instructor to arrange a time to discuss your situation. It would be helpful if you contact the Center for Students with Disabilities at (713) 743-5400 or online at (<http://www.uh.edu/csd>) before you do this.

CLASSROOM POLICIES

No cell phones allowed during class. Cell phones must be turned off while in class.

Tentative Course Schedule ¹
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Week 1	Basics of Interest Rate Derivatives: Futures and Options	Veronesi: 6
Week 2-4	Interest rate models <ul style="list-style-type: none">• Simple tree models• The Black, Derman, Toy model• Application of tree based models for pricing interest rate derivatives Single factor continuous time models <ul style="list-style-type: none">• Application of continuous time models to price interest rate derivatives	Veronesi: Ch-9-11, 15
Week 5-6	Securitization <ul style="list-style-type: none">• Basics of securitization• Default risk and prepayment in mortgage backed securities (MBS)• Collateralized mortgage obligations (CMO)	Veronesi: Ch-8
Week 7	Collateralized Debt Obligations (CDOs) <ul style="list-style-type: none">• Types of CDO structures• Discussion of index products• Risks in CDO tranches	

¹ Subject to change